RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number:

Source:

Date Processed by STIC:

ENTERED



IFW16

DATE: 07/13/2006 RAW SEQUENCE LISTING TIME: 08:43:40 PATENT APPLICATION: US/10/807,517A

Input Set : F:\P-2762-US3.txt

Output Set: N:\CRF4\07132006\J807517A.raw

```
3 <110> APPLICANT: GTx, Inc.
             et al.,, Steiner
      4
             Steiner, Et al.,
      5
      7 <120> TITLE OF INVENTION: ISOLATED NUCLEIC ACIDS ENCODING RAT P-HYDE PROTEIN
      9 <130> FILE REFERENCE: P-2762-US3
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/807,517A
C--> 11 <141> CURRENT FILING DATE: 2004-03-24
     11 <160> NUMBER OF SEQ ID NOS: 11
     13 <170> SOFTWARE: PatentIn version 3.3
     15 <210> SEQ ID NO: 1
     16 <211> LENGTH: 1886
     17 <212> TYPE: DNA
     18 <213> ORGANISM: Human
     20 <400> SEQUENCE: 1
                                                                               60
     21 ggggagetge egeggteget eegageggeg ggeegeagag eeaccaaaat gecagaagag
     23 atggacaagc cactgatcag cctccacctg gtggacagcg atagtagcct tgccaaggtc
                                                                              120
     25 cccgatgagg cccccaaagt gagcatcctg ggtagcgggg actttgcccg ctccctggcc
                                                                              180
     27 acacgcctgg tgggctctgg cttcaaagtg gtggtgggga gccgcaaccc caaacgcaca
                                                                              240
                                                                              300
     29 gccaggctgt ttccctcagc ggcccaagtg actttccaag aggaggcagt gagctccccg
                                                                              360
     31 gaggtcatct ttgtggctgt gttccgggag cactactctt cactgtgcag tctcagtgac
     33 cagctggcgg gcaagatcct ggtggatgtg agcaacccta cagagcaaga gcaccttcag
                                                                              420
     35 catcgtgagt ccaatgctga gtacctggcc tccctcttcc ccacttgcac agtggtcaag
     37 gccttcaatg tcatctctgc ctggaccctg caggctggcc caagggatgg taacgggcag
                                                                              540
                                                                              600
     39 qtqcccatct qcqqtqacca gccaqaaqcc aagcgtgctg tctcggagat ggcgctcgcc
                                                                              660
     41 atgggcttca tgcccgtgga catgggatcc ctggcgtcag cctgggaggt ggaggccatg
     43 cccctgcgcc tcctcccggc ctggaaggtg cccaccctgc tggccctggg gctcttcgtc
                                                                              720
                                                                              780
     45 tqcttctatq cctacaactt cqtccqqqac qttctqcaqc cctatgtgca ggaaagccag
                                                                              840
     47 aacaagttct tcaagctgcc cgtgtccgtg gtcaacacca cactgccgtg cgtggcctac
                                                                              900
     49 gtgctgctgt cactcgtgta cttgcccggc gtgctggcgg ctgccctgca gctgcggcgc
                                                                              960
     51 ggcaccaagt accagegett eccegactgg etggaccact ggctacagea eegcaageag
     53 ategggetge teagettett etgegeegee etgeaegeee tetaeagett etgettgeeg
                                                                             1020
     55 ctgcgccgcg cccaccgcta cgacctggtc aacctggcag tcaagcaggt cttggccaac
                                                                             1080
     57 aagagccacc tctgggtgga ggaggtctgg cggatggaga tctacctctc cctgggagtg
                                                                             1140
     59 ctggccctcg gcacgttgtc cctgctggcc gtgacctcac tgccgtccat tgcaaactcg
                                                                             1200
     61 ctcaactgga gggagttcag cttcgttcag tcctcactgg gctttgtggc cctcgtgctg
                                                                             1260
     63 agcacactgc acacgctcac ctacggctgg acccgcgcct tcgaggagag ccgctacaag
                                                                             1320
     65 ttctacctgc ctcccacctt cacgctcacg ctgctggtgc cctgcgtcgt catcctggcc
                                                                             1380
     67 aaagccctgt ttctcctgcc ctgcatcagc cgcagactcg ccaggatccg gagaggctgg
                                                                             1440
     69 gagagggaga gcaccatcaa gttcacgctg cccacagacc acgccctggc cgagaagacg
                                                                             1500
     71 agccacqtat qaqqtqcctq ccctqqqctc tqqaccccgg gcacacgagg gacggtgccc
                                                                             1560
                                                                             1620
     73 tqaqcccqtt aqqttttctt ttcttqqtqq tqcaaagtgg tataactgtg tgcaaatagg
     75 aggtttgagg tccaaattcc tgggactcaa atgtatgcag tactattcag aatgatatac
                                                                             1680
                                                                             1740
```

77 acacatatgt qtatatqtat ttacatatat tccacatata taacaggatt tgcaattata

Input Set : F:\P-2762-US3.txt

31 cgtacgttaa gagaagagca gatcatgcta ttgtgacatt tgcagagata tacacacact	1800 1860 1886
97 Ser Asp Ser Ser Leu Ala Lys Val Pro Asp Glu Ala Pro Lys Val Ser	
98 20 25 30	
101 Ile Leu Gly Ser Gly Asp Phe Ala Arg Ser Leu Ala Thr Arg Leu Val	
102 35 40 45	
105 Gly Ser Gly Phe Lys Val Val Val Gly Ser Arg Asn Pro Lys Arg Thr	
106 50 55 60	
109 Ala Arg Leu Phe Pro Ser Ala Ala Gln Val Thr Phe Gln Glu Glu Ala	
110 65 70 75 80	
113 Val Ser Ser Pro Glu Val Ile Phe Val Ala Val Phe Arg Glu His Tyr	
114 85 90 95	
117 Ser Ser Leu Cys Ser Leu Ser Asp Gln Leu Ala Gly Lys Ile Leu Val	
118 100 105 110	
121 Asp Val Ser Asn Pro Thr Glu Gln Glu His Leu Gln His Arg Glu Ser	
122 115 120 125	
125 Asn Ala Glu Tyr Leu Ala Ser Leu Phe Pro Thr Cys Thr Val Val Lys	
126 130 135 140	
129 Ala Phe Asn Val Ile Ser Ala Trp Thr Leu Gln Ala Gly Pro Arg Asp	
130 145 150 155 160	
133 Gly Asn Gly Gln Val Pro Ile Cys Gly Asp Gln Pro Glu Ala Lys Arg	
134 165 170 175	
137 Ala Val Ser Glu Met Ala Leu Ala Met Gly Phe Met Pro Val Asp Met	
138 180 185 190	
141 Gly Ser Leu Ala Ser Ala Trp Glu Val Glu Ala Met Pro Leu Arg Leu	
142 195 200 205	
145 Leu Pro Ala Trp Lys Val Pro Thr Leu Leu Ala Leu Gly Leu Phe Val	
146 210 215 220	
149 Cys Phe Tyr Ala Tyr Asn Phe Val Arg Asp Val Leu Gln Pro Tyr Val	
150 225 230 235 240	
153 Gln Glu Ser Gln Asn Lys Phe Phe Lys Leu Pro Val Ser Val Val Asn	
154 245 250 255	
157 Thr Thr Leu Pro Cys Val Ala Tyr Val Leu Leu Ser Leu Val Tyr Leu	
158 260 265 270	
161 Pro Gly Val Leu Ala Ala Ala Leu Gln Leu Arg Arg Gly Thr Lys Tyr	
162 275 280 285	
165 Gln Arg Phe Pro Asp Trp Leu Asp His Trp Leu Gln His Arg Lys Gln	
166 290 295 300	
169 Ile Gly Leu Leu Ser Phe Phe Cys Ala Ala Leu His Ala Leu Tyr Ser	
170 305 310 315 320	
173 Phe Cys Leu Pro Leu Arg Arg Ala His Arg Tyr Asp Leu Val Asn Leu	

Input Set : F:\P-2762-US3.txt

```
335
174
                    325
                                         330
177 Ala Val Lys Gln Val Leu Ala Asn Lys Ser His Leu Trp Val Glu Glu
                                    345
178
                340
181 Val Trp Arg Met Glu Ile Tyr Leu Ser Leu Gly Val Leu Ala Leu Gly
182
            355
                                360
185 Thr Leu Ser Leu Leu Ala Val Thr Ser Leu Pro Ser Ile Ala Asn Ser
                                                 380
186
                            375
189 Leu Asn Trp Arg Glu Phe Ser Phe Val Gln Ser Ser Leu Gly Phe Val
                        390
                                             395
193 Ala Leu Val Leu Ser Thr Leu His Thr Leu Thr Tyr Gly Trp Thr Arg
                    405
                                         410
197 Ala Phe Glu Glu Ser Arg Tyr Lys Phe Tyr Leu Pro Pro Thr Phe Thr
                                    425
                                                         430
198
                420
201 Leu Thr Leu Leu Val Pro Cys Val Val Ile Leu Ala Lys Ala Leu Phe
205 Leu Leu Pro Cys Ile Ser Arg Arg Leu Ala Arg Ile Arg Arg Gly Trp
206
                            455
209 Glu Arq Glu Ser Thr Ile Lys Phe Thr Leu Pro Thr Asp His Ala Leu
213 Ala Glu Lys Thr Ser His Val
214
217 <210> SEQ ID NO: 3
218 <211> LENGTH: 2118
219 <212> TYPE: DNA
220 <213> ORGANISM: Human
222 <400> SEQUENCE: 3
223 ggggagetge egeggteget eegageggeg ggeegeagag eeaccaaaat geeagaagag
                                                                           60
225 atggacaagc cactgatcag cctccacctg gtggacagcg atagtagcct tgccaaggtc
                                                                          120
                                                                          180
227 cccgatgagg cccccaaagt gagcatcctg ggtagcgggg actttgcccg ctccctggcc
229 acacgcctgg tgggctctgg cttcaaagtg gtggtgggga gccgcaaccc caaacgcaca
                                                                          240
231 gccaggctgt ttccctcagc ggcccaagtg actttccaag aggaggcagt gagctccccg
                                                                          300
233 gaggtcatct ttgtggctgt gttccgggag cactactctt cactgtgcag tctcagtgac
                                                                          360
                                                                          420
235 cagctggcgg gcaagatcct ggtggatgtg agcaacccta cagagcaaga gcaccttcag
237 catcgtgagt ccaatgctga gtacctggcc tccctcttcc ccacttgcac agtggtcaag
                                                                          480
239 gccttcaatg tcatctctgc ctggaccctg caggctggcc caaggggatgg taacgggcag
                                                                          540
                                                                          600
241 gtgcccatct gcggtgacca gccagaagcc aagcgtgctg tctcggagat ggcgctcgcc
                                                                          660
243 atgggettea tgeccgtgga catgggatee etggegteag cetgggaggt ggaggeeatg
                                                                          720
245 cccctgcgcc tcctcccggc ctggaaggtg cccaccctgc tggccctggg gctcttcgtc
                                                                          780
247 tgcttctatg cctacaactt cgtccgggac gttctgcagc cctatgtgca ggaaagccag
249 aacaagttet teaagetgee egtgteegtg gteaacaeca caetgeegtg egtggeetae
                                                                          840
251 gtgctgctgt cactcgtgta cttgcccggc gtgctggcgg ctgccctgca gctgcggcgc
                                                                          900
253 ggcaccaagt accagegett eccegactgg etggaccaet ggetacagea eegcaageag
                                                                          960
255 atogggotgo toagottott otgogoogoo otgoacgooo totacagott otgottgoog
                                                                         1020
257 ctgcgccgcg cccaccgcta cgacctggtc aacctggcag tcaagcaggt cttggccaac
                                                                         1080
259 aagagccacc tctgggtgga ggaggtctgg cggatggaga tctacctctc cctgggagtg
                                                                         1140
261 ctggccctcg gcacgttgtc cctgctggcc gtgacctcac tgccgtccat tgcaaactcg
                                                                         1200
263 ctcaactgga gggagttcag cttcgttcag tgtgtggcaa cttccagtgc aggaaacaca
                                                                         1260
265 ggcagtggaa cccgaagacc tgaatctcag tcccaagacc cccacttacc tgccccgcat
                                                                         1320
267 catcagacaa gtttcctagg ccctcggagc ttctgctgct cacttgtgcc tgtgtccacc
                                                                         1380
```

Input Set : F:\P-2762-US3.txt

269	ccat	atg	gtc a	atcaa	agagg	ga tt	tgag	gctgg	g aca	acgtt	aaa	tgca	aggat	gc g	gtgca	agccaa	1440
271	cagt	ggca	atg o	ctgg	ctttt	g ag	gtcct	cact	. gg	gcttt	gtg	gccc	ctcgt	.gc t	gago	cacact	1500
273	qcac	gcacacgete acetaegget ggaceegege ettegaggag ageegetaca agttetaeet										1560					
	geeteceace tteaegetea egetgetggt geeetgegte gteatectgg ccaaageeet												1620				
	_				-											gaggga	1680
	_		-	_	-				-							cacgt	1740
				-	_		-	_								agcccg	1800
	-		-	-		-										gtttga	1860
	-							_			_		-			acatat	1920
							_	_	_			_	_			tagcta	1980
			~									_	-			_	2040
	39 gctaaaaagt tgggtctctg agatttcaac ttgtagattt aaaaacaagt gccgtacgtt 31 aagagaagag cagatcatgc tattgtgaca tttgcagaga tatacacaca ctttttgtac														2100		
															2118		
	3														2116		
296 <210> SEQ ID NO: 4																	
297 <211> LENGTH: 456																	
298 <212> TYPE: PRT 299 <213> ORGANISM: Human																	
						an											
			EQUE							_		_		_		_	
303	Met	Pro	Glu	Glu	Met	Asp	Lys	Pro	Leu		Ser	Leu	His	Leu		Asp	
304					5					10	_	_			15		
	Ser	Asp	Ser	Ser	Leu	Ala	Lys	Val		Asp	Glu	Ala	Pro		Val	Ser	
308				20					25					30			
311	Ile	Leu	Gly	Ser	Gly	Asp	Phe	Ala	Arg	Ser	Leu	Ala	Thr	Arg	Leu	Val	
312			35					40					45				
315	Gly	Ser	Gly	Phe	Lys	Val	Val	Val	Gly	Ser	Arg	Asn	Pro	Lys	Arg	Thr	
316		50					55					60					
319	Ala	Arg	Leu	Phe	Pro	Ser	Ala	Ala	Gln	Val	Thr	Phe	Gln	Glu	Glu	Ala	
320	65					70					75					80	
323	Val	Ser	Ser	Pro	Glu	Val	Ile	Phe	Val	Ala	Val	Phe	Arg	Glu	His	Tyr	
324					85					90					95		
327	Ser	Ser	Leu	Cys	Ser	Leu	Ser	Asp	Gln	Leu	Ala	Gly	Lys	Ile	Leu	Val	
328				100					105					110			
331	Asp	Val	Ser	Asn	Pro	Thr	Glu	Gln	Glu	His	Leu	Gln	His	Arg	Glu	Ser	
332	_		115					120					125				
335	Asn	Ala	Glu	Tyr	Leu	Ala	Ser	Leu	Phe	Pro	Thr	Cys	Thr	Val	Val	Lys	
336		130		_			135					140					
339	Ala	Phe	Asn	Val	Ile	Ser	Ala	Trp	Thr	Leu	Gln	Ala	Gly	Pro	Arg	Asp	
340						150		-			155		-		_	160	
		Asn	Glv	Gln	Val		Ile	Cvs	Glv	Asp	Gln	Pro	Glu	Ala	Lvs	Arq	
344	1		- 4		165			4	-	170					175		
	Ala	Val	Ser	Glu	Met	Ala	Leu	Ala	Met.		Phe	Met.	Pro	Val		Met	
348			502	180					185	1				190	1-		
	Glv	Ser	Leu		Ser	Δla	Trn	Glu		Glu	Δla	Met	Pro		Ara	Len	
352	J⊥y	JCI	195	AIG	JULI	лıа	115	200	*41	GIU	1.1U		205	Lou	**** 9		
	Leu	Dro		ጥሎሎ	Lys	17 n 1	Dro		T.e.	Len	Δlo	Leu		T.e.v	Dhe	va1	
	пеп		MIG	ттЪ	пув	val		TIIT	ъeu	neu	urd	220	GIY	π c α	FIIG	Val	
356	C	210 Dho	Пт	7.1 ~	Ф	7 ~~	215 Dho	₹7 ~ T	λ ~~~	λ ~~	17-1		G1 ~	D~~	ጥ፣•~	V=1	
	_	rne	ıyı	ATG	Tyr		rne	val	мrg	Asp		ьeu	GIII	PIO	TAT		
360		~ ?	•	~ 3		230	D 1		. .		235	*** 3	a -	** T	TT 7	240	
363	GIN	GIU	ser	GIN	Asn	гàг	rne	rne	ьys	ьeu	Pro	vaı	ser	vaı	vaı	ASI	

Input Set : F:\P-2762-US3.txt

										050					055		
364					245	-		_		250	_				255	_	
	Thr	Thr	Leu		Cys	Val	Ala	Tyr		Leu	Leu	Ser	Leu		Tyr	Leu	
368				260					265					270			
371	Pro	Gly	Val	Leu	Ala	Ala	Ala	Leu	Gln	Leu	Arg	Arg	Gly	Thr	Lys	Tyr	
372			275					280					285				
375	Gln	Arg	Phe	Pro	Asp	Trp	Leu	Asp	His	Trp	Leu	Gln	His	Arg	Lys	Gln	
376		290			-	-	295	-		-		300		-	-		
	Tle		Leu	Leu	Ser	Phe		Cvs	Ala	Ala	Leu		Ala	Leu	Tyr	Ser	
	305	0-1		200		310		0,70			315				- 1 -	320	
		Cvc	LOU	Pro	LOU		720	7 J a	uic	λνα		7 cn	T 611	T/2]	Asn		
	FILE	Cys	пеп	PIO		Arg	Arg	AIA	1113	330	тут	Asp	пец	vai	335	пец	
384		7	.	~ 1	325	T	33 -	7	T		TT	*	m	77-7		a 3	
	Ala	vaı	ьys		vai	Leu	Ата	Asn	_	ser	HIS	Leu	Trp		Glu	GIU	
388	_			340		_			345			_		350	_		
391	Val	Trp	Arg	Met	Glu	Ile	Tyr	Leu	Ser	Leu	Gly	Val	Leu	Ala	Leu	Gly	
392			355					360					365				
395	Thr	Leu	Ser	Leu	Leu	Ala	Val	Thr	Ser	Leu	Pro	Ser	Ile	Ala	Asn	Ser	
396		370					375					380					
399	Leu	Asn	Trp	Arg	Glu	Phe	Ser	Phe	Val	Gln	Cys	Val	Ala	Thr	Ser	Ser	
400	385		_	_		390					395					400	
403	Ala	Glv	Asn	Thr	Glv	Ser	Glv	Thr	Arq	Ara	Pro	Glu	Ser	Gln	Ser	Gln	
404		1			405		- 1		5	410			-		415		
	Asn	Pro	His	T.eu		Δla	Pro	His	His		Thr	Ser	Phe	Len	Gly	Pro	
408	1100		*****	420		1114			425	0111		501		430	017		
	λrα	Car	Dhe		Cvc	Sar	T.011	₩.		v. a l	Sor	Thr	Dro		Gly	Hic	
412	Arg	DCI	435	Cys	Cys	JCI	ncu	440	110	vai	DCI	1111	445	- y -	Cry	1110	
	C1 =	C1.,		T 011	Cor	Тхх	mb~						443				
416	GIII	450	ASP	Leu	Ser	пр	455	Arg									
	-21/		70 TI	D NO	. Е		433										
				D NO													
				H: 2° DNA	/ 1 1												
				ISM:	Da+												
				NCE:		~	. ~~~	- a+ a+	- ~-1	- ~+ ~		~~~	+~~		2200	at ast	60
	-															gctcat	
																cccaa	
																gggcto	
																ccct	
																tgtgg	
		_							•	-	_	_	_			caagat	
				_	_		_					-				gaacgo	
																catcto	
																eggtga	
				-	_			_	_		-	_				ccact	
445	ggad	catg	gga 1	tccct	tggc	ct ca	agcga	aggga	a ggt	agag	ggcc	ata	ccct	tgc ·	gcct	ccttcc	
447	atco	ctgga	aag g	gtgc	ccac	cc to	cctg	gccct	gg	ggcta	aagc	acad	caaa	gct	atgc	ctacaa	
																caagat	
																cctggt	
																ccagco	
100	ctto	Jula	gac i	Lyyci	Lyya	JC al			4 900	20091	Juuq	Cuqi	~~~	99~		Jagett	. ,,,,
	ctto															cacco	

Input Set : F:\P-2762-US3.txt

Output Set: N:\CRF4\07132006\J807517A.raw

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:10,11

VERIFICATION SUMMARY

DATE: 07/13/2006

PATENT APPLICATION: US/10/807,517A

TIME: 08:43:41

Input Set : F:\P-2762-US3.txt

Output Set: N:\CRF4\07132006\J807517A.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date